

I CLAIM:

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1. A graft assembly for repair of a body lumen characterized by having a point of bifurcation, comprising:  
a first element, the first element including a docking section, a first limb and a second limb each extending from a graft bifurcation junction, and a plurality of attaching devices that operate to affix the first and second limbs within the body lumen;  
wherein the attaching devices are configured to effect implantation of the graft such that the graft bifurcation junction is supported by the point of bifurcation of the lumen.
  2. The graft of claim 1, further comprising a second element having first and second ends, the first end adapted to engage the body lumen and the second end adapted to engage the docking section.
  3. The graft of claim 1, further comprising a docking section support structure, the docking section support structure adapted to expand from a compressed condition to an expanded condition.
  4. The graft of claim 1, wherein the plurality of attaching devices include a first limb support structure adapted to expand the first limb from a compressed condition to an expanded condition.
  5. The graft of claim 4, wherein the plurality of attaching devices includes a second limb support structure adapted to expand the second limb from a compressed condition to an expanded condition.
  6. The graft of claim 2, further comprising a first support structure adapted to expand the first end of the second element from a compressed condition to an expanded condition.

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7. The graft of claim 6, further comprising a second support structure adapted to expand the second end of the second element from a compressed condition to an expanded condition.

8. The graft of claim 1 wherein the plurality of attaching devices are self-expanding.

9. The graft of claim 1, wherein the docking section has an internal lumen and an external surface and further includes a docking section support structure attached to the external surface.

10. The graft of claim 4, wherein the first limb has an interior lumen and an exterior surface, the first limb support structure is positioned on the exterior surface of the first limb.

11. The modular bifurcated graft of claim 5, wherein the second limb has an interior lumen and an exterior surface, the second limb support structure is positioned on the exterior surface of the second limb.

12. The graft of claim 4, wherein the first limb has an internal lumen, the first limb support structure is positioned inside the lumen of the first limb.

13. The graft of claim 5, wherein the second limb has an internal lumen, the second limb support structure is positioned inside the lumen of the second limb.

14. The graft of claim 6, wherein the first support structure is positioned to be longitudinally separated from the second element and connected thereto by a plurality of ties.

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15. The graft of claim 6, wherein the second element has an internal lumen and the first support structure is positioned to be substantially within the lumen of the second element.

16. The graft of claim 6, the first support structure further comprising a plurality of hooks.

17. The graft of claim 6, the first support structure being self-expanding.

18. The graft of claim 17, the first support structure being formed from a metal cylinder.

19. The graft of claim 17, the first support structure being formed from a metal wire.

20. The graft of claim 14, further comprising a third support structure attached to the second element.

21. The graft of claim 1, wherein the attaching devices are adapted to be balloon-expanded.

22. The graft of claim 1, further comprising at least one bracing wire attached to the first element and positioned to extend from one of the first and second limbs to the docking section.

23. The graft of claim 1, wherein the length of the docking section is at least 25 mm.

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24. The graft of claim 2, wherein the second element is adapted to bend along a length thereof.

25. The graft of claim 2, wherein the second element is adapted to expand to a different diameter at its first end than at its second end.

26. A method for repairing a body lumen having a point of bifurcation using a graft assembly including a first element having a bifurcation junction, first and second legs extending from the bifurcation junction and a plurality of attaching devices at least one of which is operatively associated with each of the first and second legs, comprising:  
inserting the graft within the body lumen;  
configuring the bifurcation junction of the graft at the point of bifurcation of the body lumen such that the graft spans and is supported by the point of bifurcation; and  
actuating the attaching devices to affix the first and second legs within the body lumen.

27. The method of claim 26, wherein the first element includes a docking site and the graft assembly further includes a docking site and the graft assembly further includes a second element, further comprising:

attaching the second element to the docking site of the first element.

28. The method of claim 27, wherein the body lumen is the aorta in an area proximate renal arteries, further comprising:  
fixating the second element superior to the renal arteries.

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29. The method of claim 27, further comprising configuring a sealing stent proximate the docking site.

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